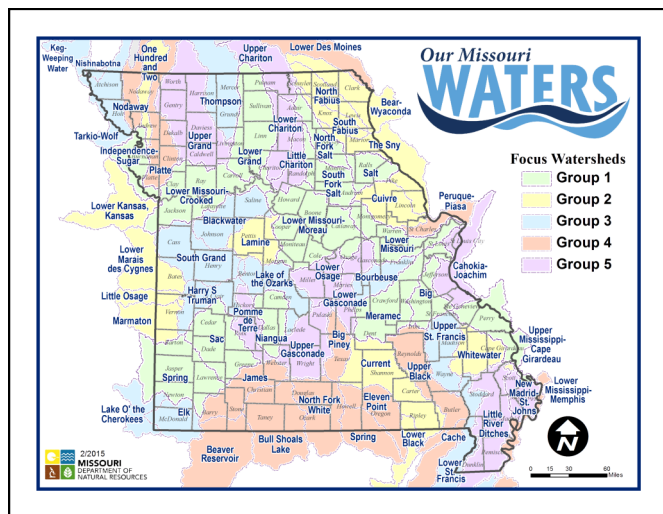




Watersheds

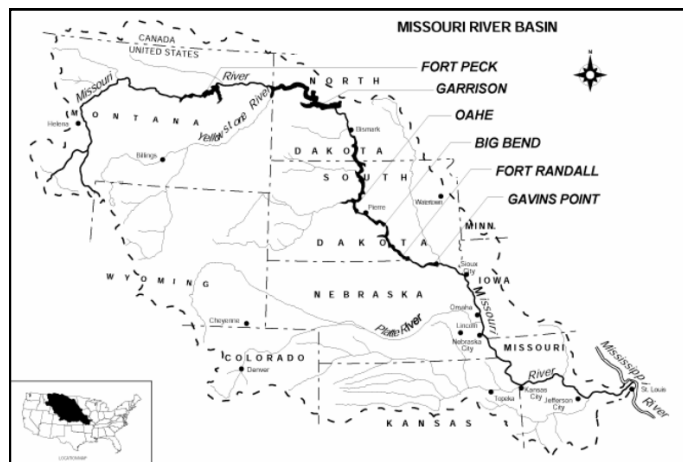
A **watershed** is an area of land that catches rainfall and melting snow which then drains into low lying bodies of water. Watersheds vary in size from the largest river **basins** to just a few acres or less. A group of watersheds that drain into a major water body often are referred to as a basin. For example, all of the land that drains into the Missouri River, from Three Forks, Montana to St. Louis, Missouri, is called the Missouri River Basin. This basin contains numerous smaller watersheds within its boundaries. The fact is, no matter the size or location, we all live, work and play in a watershed.

The **topography** of a watershed describes the form of the land within the watershed including hills, valleys and other features that influence where and how water will flow to a stream. The watershed boundary is defined by the highest elevations surrounding a stream. Water on the surface of the land will either flow downstream through the watershed, soak into the ground, evaporate into the atmosphere, or be taken up and used by plants or animals.



Major watersheds in Missouri

Actions on the land can have dramatic impacts to water quality. For example, **impervious** surfaces such as parking lots, roads, and rooftops increase the speed and amount of storm water flow into streams, lakes and rivers. On the way the water can pick up pollutants and the speed of the water flow can erode stream banks. Such impacts can change the water quality, quantity, the velocity of water movement through the system, and the amount of sediment deposited in the receiving water body.



The Missouri River watershed

Watersheds provide water for drinking, **irrigation**, industrial processes and recreational activities, to name a few. The condition of a watershed is linked directly to the quality and quantity of water in a lake, river, stream or wetland. Water quality and quantity benefit when the natural processes of a watershed such as surface water runoff, groundwater recharge and **sediment** transport are working properly. It is crucial for people to understand how watersheds work before they make decisions or take actions that may affect important watershed structural or functional characteristics.



Storm water runoff from impervious surfaces such as parking lots and streets can become contaminated with road salts, soil and lawn chemicals. Street storm drains receiving the runoff lead to rivers and streams within a watershed.

Watershed conditions influence **stream hydrology** and groundwater recharge as well as the quantity and quality of a stream's water. Healthy watersheds that contain abundant and diverse vegetation trap pollutants, slow sediment erosion, and help streams maintain an even-paced flow by delivering water at a slow pace. In an undeveloped watershed, the majority of water flowing into a stream enters as groundwater rather than surface runoff.

The benefits of healthy watersheds are numerous. Healthy watersheds also provide sufficient amounts of clean water required for safe drinking water, **aquatic organisms** and **wildlife**, and recreation. Healthy watersheds help reduce

vulnerability to impacts of climate and land use change. Healthy watersheds provide many economic benefits such as reducing costs for supplying and treating water for human consumption and industrial uses, increasing tourism by providing desirable places to fish, swim and boat, increasing property values, and mitigating damage caused by floods. Clean fresh water is a precious commodity and when the watershed that provides you water is protected, your water supply is protected. Care for the watershed, care for the water.



A woodland stream typical of those found throughout Missouri.



Spring water gushes out of the ground to form the headwaters of a stream.

Glossary:

Aquatic ecosystem: An ecosystem in a body of water.

Basin: A group of watersheds that drain into a major water body (see *watershed*).

Impervious: The ability of a material to not allow liquid or gas to pass through itself (see impermeable).

Irrigation: A controlled means of applying water to agricultural land to assist in the production of crops.

Sediment: Material such as silt, sand, stones, and other material that is carried and deposited by water, wind, or glaciers.

Stream hydrology: The study of movement, distribution, and quality of water in a stream.

Topography: The shape of an area of land, including its hills, valleys and streams.

Watershed: All the land from which water drains into a specific body of water.

Wildlife: Living things including birds, mammals, reptiles, fish, and other terrestrial, aquatic and amphibious life forms which are not domesticated.

Watershed Resources:

For more information on how you can protect your watershed see:

Watersheds fact sheet [PUB243](#)

Our Missouri Waters web site: <http://dnr.mo.gov/omw/>

Our Missouri Waters brochure: <http://dnr.mo.gov/pubs/pub2472.pdf>

Who's Monitoring Your Watershed? <http://dnr.mo.gov/env/wpp/watersheds.htm>

A Watershed View: <http://dnr.mo.gov/env/wpp/vmqmp/docs/chpt-06-intro-watershed-view-12-10.pdf>

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